

RECENT EARTHQUAKES.

August 1.—At Port au Prince, Haiti, one minute before noon, a very slight shock.

August 7.—San Francisco, Oakland, Berkeley, and Alameda, very slight shock just before noon, noticed principally by means of delicate seismographs. At Berkeley the shock occurred at 11:58, and the seismographs on the campus of the university recorded a movement from south to north without any perceptible vertical motion. The cable report from Messina, Italy, records a severe earthquake at that place at 2:33 a. m. of August 6, which would be about 4:30 p. m. of August 5, San Francisco time, so that this shock could not be the same as that felt in California on the 7th.

August 12.—Seattle, Wash: Two slight shocks of about four seconds duration were felt during the night of the 12-13th.

August 27.—By cablegram to the New York World, it appears that four earthquake shocks occurred at Santiago de Cuba between 11:10 and 11:15 a. m. of this date.

Seismographs at Washington, D. C., and Cleveland, Ohio, recorded no shocks during August.

EARTHQUAKES IN CENTRAL AND SOUTH AMERICA.

The "Antonio Alzate" Society, of the City of Mexico, in its memoirs, has published two papers by F. de Montessus de Ballore, Chief of Artillery, in one of which he describes the earthquakes of Mexico, and in the second, those of Spanish America from the Isthmus of Tehautepec to Cape Horn. This latter immense region he divides into six seismic centers, which he arranges in the order of decreasing seismicity as follows:

No. 1. Central America: This embraces six special regions, including 108 localities in which the record of earthquakes enumerates 2,659 shocks. The seismic action is in general clearly localized or restricted to the Pacific slope.

No. 2. The northern Andes, including Trinidad, Panama, and Guayaquil. This includes ten seismic regions, 117 localities, and 1,385 shocks.

No. 3. The central Andes, including Chile and the eastern Cordilleras in Bolivia. We have here four seismic regions, 61 localities, and 2,884 shocks.

No. 4. The southern Andes, extending to Cape Horn, including 5 regions, 72 localities, and 2,956 shocks.

No. 5. The Atlantic coast of South America, including 2 regions, 29 localities, and 56 shocks.

No. 6. The Antilles: One region, 20 localities, and 157 shocks.

The minor regions, of which there are 28 in all, are also arranged by Montessus de Ballore in the order of seismic activity, as follows: Salvador, Costa Rica, northern Cnile, Guatemala, Panama, central coast of Peru, Paria, Venezuela proper, Quito, central Chile, southern Chile, Tucuman, southern coast of Peru, Haiti, and San Domingo, Venezuelan Andes, and finally Guayaquil.

THE AUSTRALIAN WEATHER GUIDE.

According to an article in the last number of the Journal of the Manchester Geographical Society, the Government of Queensland, Australia, has decided "to publish a thoroughly scientific almanac dealing principally with the new science of meteorology." This publication is to be edited by Mr. Clement L. Wragge, the energetic Chief of the Brisbane Meteorological Office. Mr. Wragge in his note concerning this "Weather Guide" says:

It will appeal to the sympathies of the squatter, the farmer, the agriculturist, horticulturist, the miner, and particularly the sailor and

the invalid. It will show how forecasts are made, and give examples of the conditions that precede transcontinental rains, thunderstorms, cold spells, southerly bursters, tropical hurricanes, and other interesting phenomena.

The principal meteorological instruments will be described and directions given for their use. We shall investigate the depths of the antarctic V-shaped depressions which are like atmospheric valleys attached to the low belts of low pressure around the antarctic circle. We shall, in mind, accompany some noble vessel under the influence of such a storm and see the conditions under which the upper topsails are sent up to the cheery chanty of "Reuben Ranzo." Paragraphs will be devoted to horticulture operations. * * * We shall not forget our friends the bushmen, the lonely swagmen, and the teamsters, for whom we have a profound respect.

These eloquent words suggest an excellent field of activity for some of our own voluntary observers and section directors. The almanac is still the guide and friend to the farmer and planter, and if its scientific articles are not written in too technical and too abstruse a style, a Weather Bureau almanac would be highly useful in the homes of our farmers. Of course, its editor would not make the mistake of attempting long range predictions, or any other non-scientific display of his wisdom, but within certain limitations an annual meteorological almanac would be a worthy companion to the monthly section report for each State.

Mr. Alva Agee, in an article in the National Stockman and Farmer of August 4, has well said:

In view of the weather's unpopularity, it is remarkable that there is such a general craving for foreknowledge of its character for future months that fakirs can make money out of this craving. Almanacs have suffered great loss in circulation in recent years, and their weather predictions have been supplanted in the public's affection by the predictions of a few fakirs or prophets as published in many of the leading papers. It is a well-known scientific fact that these predictions of weather for weeks or months ahead are the purest guess work, and their publication reflects no credit upon our intelligence as a people.

Of course neither the Australian Weather Guide nor any almanac published by a Weather Bureau official would for a moment encourage a discreditable attempt to pander to the general craze for an insight into the weather of the coming season.

RIBBON LIGHTNING.

The Weather Bureau has received two very interesting photographs of lightning from Rev. J. Stewart-Smith, rector of St. Mary's Church, Kansas City, Mo. They were taken on July 28, at about 11:30 p. m. The camera was a Premo B, 4 by 5, diaphragm 8. The photographs were taken on a Cramer plate, crown brand, and we regret that the interesting details in these lightning flashes can not easily be reproduced by photogravure processes. By the help of the chimney stack, 72 feet distant from the lens, we are able to infer that the apparent angular diameter of the width of the ribbon flash was about half a degree, but the foreshortening of the ribbon was such that its full width would have subtended an angle of at least 1°. As the lightning flash certainly struck the building and passed very close to the top of the chimney, the actual width of the ribbon must have been not less than 2 feet. We know of but one other photograph of ribbon lightning in which it has been possible to approximate to the width of the ribbon. That gave a width of about 3 feet. The photograph was taken, with the camera looking eastward, from the rear of a rapidly-moving railroad train in Dakota, by Mr. W. T. Jennings, of Philadelphia, who states that he has frequently manufactured ribbon lightning by moving the camera across an oscillating discharge. But photographs of ribbon lightning are not taken in any such way. A discharge of lightning is too fleeting to be influenced by the motion of the camera. With artificial oscillatory discharges one may so control the time of the discharges and the motion of the sensitive film as to produce the appearance of a ribbon;